

REMARKS

Claims 14, 16-23, and 26-30 are pending in the present application, of which Claims 14 and 22 are independent. In the Office Action mailed August 10, 2006, Claims 14, 16, and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese '438 publication (misidentified in the Office Action as "Japan '478"). Also, Claims 14, 16, 17, and 19-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,983,454, issued to Podmore, Jr. et al. (hereinafter "Podmore"). Further, Claims 14, 16, and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese '754 publication. Lastly, Claim 18 is objected to as being based upon rejected Claim 14, but would be allowable if rewritten in independent form to include all of the limitations of Claim 14.

Canceled Claims 20-21

Claims 20-21 are presently canceled because previous amendments rendered these claims identical to Claims 16 and 17, respectively.

Amended Claim 14

Claim 14 is presently amended to address the above-noted rejections. As amended, Claim 14 recites a "particulate matter vibro-fluidizing apparatus comprising vibrating means and means for treating the particulate matter," with "*said vibrating means providing a vibrating motion in a substantially vertical direction*" (emphasis added). In addition, the means for treating the particulate matter comprises:

a set of different types of vibrating bodies operating in cooperation with said vibrating means, said vibrating bodies comprising a container *having a generally flat horizontal bottom*, said container being filled with the particulate matter defining a particulate matter layer, and a vibrating medium installed within the container so that the vibrating medium is at

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least partially disposed within said particulate matter layer, *said vibrating medium being unattached to the container...*(emphasis added)

Japanese '438 publication

The Japanese '438 publication is directed to an electromagnetic type crushing apparatus having a mixing container 1 in which a sample 11 is crushed. The container 1 is mounted on a plate 4, which is supported by springs 6. A plurality of electromagnets 110a-110d are disposed under the plate 4, and the container 1 is vertically vibrated by alternately energizing the magnets or energizing each magnet with different electric volumes. The sample 11 and a crushing ball 8 are placed inside the container 1, and the vertical vibration is applied to the container 1. Then, the vertical vibration and vertical movement along the circumference of the container 1 are applied to the crushing ball 8, thereby promoting the crushing/mixing efficiency. As shown in Figs. 1 and 3, the disclosed mixing container 1 has a round, bowl-shaped bottom. Because the inside surfaces of the mixing container 1 are rounded, gravity causes the sample 11 and the crushing ball 8 to constantly migrate to the center of the mixing container, thereby ensuring that the crushing ball 8 will act upon the sample 11.

In contrast, amended Claim 14 recites a container having "a generally flat horizontal bottom." The Japanese '438 publication does not teach such a limitation, and therefore, may not properly serve as the basis for a rejection under 35 U.S.C. § 102(b). Further, one of skill in the art would not be motivated to modify the Japanese '438 publication to include such a limitation because doing so would prevent the crushing ball and the sample from constantly migrating to the center of the container, thereby decreasing the efficiency of the crushing apparatus.

For at least the foregoing reason, the applicant respectfully submits that Claim 14, as presently amended, is allowable over the Japanese '438 publication. Further, if Claim 14 is allowed, then Claims 16 and 17, which depend there from, should also be allowed.

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Podmore

Podmore relates to a grinding mill and a method for grinding material using a number of balls 20 as grinding media. The mill comprises a cylindrical pan 10, which receives and encloses a bottom plate 12. (col. 2, lines 3-5). The pan unit is supported by a number of springs 13, which are mounted in an inclined position and grouped around a vibrating unit. (col. 2, lines 7-15). The lower ends of the springs 13 are anchored to a base 14, and the upper ends of the springs 13 are attached to the plate 12. In operation, the vibrating means supplies to the pan 10 a "high frequency rotational or gyrating vibration about an approximately vertical axis with an upward and downward component in the rotational direction." (col. 1, lines 52-57). This "rapid succession of small to and fro rotary movements of a somewhat spiral nature" moves the charge around the container and increases grinding action. (col. 1, lines 58-61; col. 2, lines 28-29).

Unlike Podmore, Claims 14 recites a vibrating means, "said vibrating means providing a vibrating motion in a substantially vertical direction." Because Podmore teaches a generally "rotational and gyrating vibration" instead of a vibrating motion "in a substantially vertical direction," Podmore does not teach every element of Claim 14 and, therefore, does not anticipate Claim 14. Further, the spiral nature of the vibration taught in Podmore "tends in general to circulate the charge around the container and avoids the tendency of for the charge to settle." (col. 1, lines 58-61). Accordingly, one of skill in the art would not be motivated to alter Podmore to have the vibrating motion in "a substantially vertical direction."

For at least the foregoing reason, the applicant believes that Claim 14, as presently amended, is allowable over Podmore. Further, if Claim 14 is found allowable, then Claims 16, 17, and 19, which depend there from, should also be allowed.

Japanese '754 publication

The Japanese '754 publication teaches a vibrating apparatus comprising a base 1 and a container 3, wherein the container 3 is mounted to the base 1 by a plurality of springs 2 so that the springs 2 support the container 3. A plate 11 is mounted via mounting springs 13, 14 within the container and receives a particulate matter. A vibration generator 6 causes the plate to oscillate within the container. Resonance between the container 3 and the plate 11 allows the amplitude of the plate 11 to be increased in order to promote a crushing operation.

While the Japanese '754 publication teaches a plate mounted to the inside of the container with springs, Claim 14, as presently amended, recites "a vibrating medium installed within the container, said vibrating medium being unattached to the container." Because the Japanese '754 publication does not teach a vibrating medium that is "unattached to the container," it does not teach each and every element of Claim 14. Accordingly, the Japanese '754 patent does not anticipate Claim 14. Further, one would not be motivated to detach the plate of the Japanese '754 publication from the container, because doing so would preclude a resonance between the plate and the container, which is relied upon to promote the crushing operation.

In view of at least the foregoing, the applicant respectfully submits that Claim 14, as presently amended, is allowable over the Japanese '754 publication. Moreover, if Claim 14 is allowed, then Claims 16 and 17, which depend therefrom, should also be allowed.

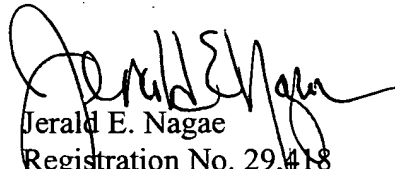
Conclusion

For at least the foregoing reasons, the applicant respectfully submits that Claim 14 is allowable over the cited references. If Claim 14 is allowed, then Claims 16-19 should also be

allowed. An early and favorable action allowing Claims 14 and 16-19 is respectfully solicited.
If the Examiner has any questions, he is invited to contact the undersigned at 206.695.1705.

Respectfully submitted,

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